REMARKS

By this amendment, Applicants have amended claim 1. Claims 1-4, 6, and 8-15 are thus currently under examination in the present application. Applicants submit that the present amendments will overcome the remaining objections and narrow any remaining issues and thus should be entered. For the reasons as stated below, Applicants submit that the entrance of the present amendment will place this application in condition for immediate allowance.

As an initial matter, by virtue of the present amendments, claim 1 has been amended to indicate that the water-dispersible granules of the presently-claimed compositions have a high disintegrability, a high dispersibility, and a high suspension stability in water as well as being capable of producing an aqueous dilute dispersion having a low foamability when the aqueous dilute dispersion is prepared by mixing the water-dispersible granules with water. Support for this amendment can be found, for example, on page 22, lines 4-18 and pages 41-42 of the English translation of the present application where it is indicated that the water-dispersible granules described and claimed in the present application offer a combination of advantageous characteristics including a high disintegrability, a high dispersibility, and a high suspension stability in water as well as exhibiting a low foamability when the water-dispersible granules are mixed with water.

Further, by the present amendments, claim 1 has also been amended to indicate that the metal salt of a fatty acid of 6 to 28 carbon atoms is used in the presently-claimed compositions as an anti-foaming agent in amounts that ensure that the aqueous dilute

dispersion, as prepared, results in little or no foaming upon stirring of the dispersion. Support for this amendment may be found, for example on pages 7-8 and page 17, lines 10-14 of the present application and throughout the Examples, where it is indicated that the amounts of the fatty-acid metal salt must be incorporated into the compositions in such amounts as are necessary to ensure that the aqueous dilute dispersion exhibits a low foamability.

Also, by the present amendments, claim 1 has further been amended to indicate that the water dispersible granules of the presently-claimed compositions each do not contain an anionic surfactant made of a polycarboxylate (e.g. a copolymer of maleic anhydride and di-isobutylene or a salt thereof) and each do not contain a water-soluble carrier. Support for these amendments can be found, for example, in Examples 1-9 and 11 of the present application, which clearly illustrate that such water-soluble carriers should be excluded from the presently-claimed compositions. Accordingly, in light of the foregoing comments, no new subject matter has been added by any of the above-described amendments to claim 1, and the amendments should be entered.

Claim Rejections - 35 U.S.C. §102(b)

In the Office Action of July 9, 2008, the Examiner rejected claims 1-4, 6, and 8-15 under 35 U.S.C. §102(b) as being anticipated by Nishi, *et al.* (U.S. Patent No. 6,620,421). In particular, the Examiner asserted that Nishi discloses a water-dispersible granule for crop applications that comprises a pesticidally active ingredient, a surfactant, a metal salt fatty acid having 18 carbon atoms, and a water-insoluble carrier, and that the properties

possessed by the water-dispersible granule of Nishi are necessarily the same as those which are claimed in the present application. For the reasons set forth below, Applicants respectfully traverse the Examiner's rejection and request that it be withdrawn.

The claims of the present application, as amended, are directed toward agricultural or horticultural granular compositions comprised of water-dispersible granules that are capable of producing an aqueous dilute dispersion and consist essentially of an agrochemically active ingredient, at least one surfactant, at least one metal salt of a fatty acid of 6 to 28 carbon atoms in an amount that ensures the water dispersible granules exhibit little or no foaming upon stirring, and at least one water-insoluble carrier. As described on page 22, lines 4-18 and pages 41-42 of the present application, the presently-claimed water dispersible granules were found to have a number of surprising and advantageous characteristics including: (1) a high disintegrability and dispersibility in water that is not materially affected by the agrochemical ingredient; (2) a low foamability in that the aqueous dilute dispersion that is prepared by placing the water-dispersible granules in water is hard to foam upon stirring; (3) a high suspendability of the aqueous dispersion in water; and (4) a high anti-caking property when the granules are stored for a long-period of time.

With regard to the low foamability of the presently-claimed compositions, it is indeed the case that it is hard to cause the aqueous dilute dispersion to foam. As demonstrated in Example 2 of the present application, the aqueous dilute dispersions, which are prepared by mixing the water-dispersible granules with water, exhibit a low foamability, as measured by the height of the resulting foam phase of the stirred aqueous

dispersion, even when the dispersion is stirred by repeatedly inverting downward and upward a 250 mL cylinder containing the dispersion. This surprising and advantageous characteristic is not taught or suggested by the Nishi reference cited in the present Office Action, much less the art in general.

Indeed, as discussed on pages 4-6 of the present application, it is recognized in the field that the addition of water-dispersible granules containing an agrochemical ingredient in combination with a high-wettability surfactant to improve the disintegrability and dispersibility of granules in water usually results in the compositions forming a large volume of foam. Further, it is often the case that when such water-dispersible granules are mixed with a ten to thousand fold greater volume of water to prepare an aqueous dilute dispersion having an appropriate concentration of an agrochemical ingredient and then are stirred, the aqueous dilute dispersion can form a large volume of foam that is not only difficult handle, but also presents a great deal of difficulty when the dispersion is applied to crops.

For instance, when such a greatly foamed aqueous dilute dispersion is applied to crops in a field, it is very difficult to take up and measure an exact and suitable volume or quantity of liquid. As such, due to the presence of the foam, the agrochemical ingredient can thus not be applied at a suitable and necessary rate of application for the agrochemical ingredient to the field. Further, the use of such a greatly foamed aqueous dilute dispersion often results in an operator, who is applying the dispersion, experiencing a great deal of difficulty in pouring an exact and suitable volume of the dispersion for application in a field or in applying the dispersion to crops by spray application.

In contrast to the teachings of the prior art, however, the inventors of the presently claimed invention have unexpectedly discovered that the presently-claimed compositions exhibit both a high disintegrability and dispersibility of the granules in water, while still exhibiting a low foamability. As described on page 7, line 22 to page 8, line 27 of the present application, a composition exhibiting a low foamability in combination with a high disintegrability and dispersibility can be provided when the presently-claimed water-dispersible granules are mixed with a exceedingly greater volume of water and can further provide an aqueous dilute dispersion that is exceptionally difficult to cause to foam even upon vigorous stirring of the mixture.

This teaching of a low foamability is entirely missing from the cited Nishi reference. In contrast to the claim 1 of the present application, the cited Nishi is entirely silent on the problems that are encountered when an aqueous dilute dispersion is prepared by mixing the water-dispersible granules of Nishi with a great volume of water. For example, although Nishi includes some mention of a high disintegrability and dispersibility of the granules in water, it does not teach a composition that avoids the problems associated with a great volume of foam that forms upon stirring the aqueous dilute dispersion of the cited Nishi reference.

Even further, Nishi does not teach the inclusion of a metal salt of a fatty acid of 6 to 28 atoms as an anti-foaming agent. As recited in claim 1, as amended, the water-dispersible granules of the present composition include at least one metal salt of a fatty acid of 6 to 28 carbon atoms that is included in the composition in an amount that ensures that the aqueous dilute dispersion is hard to foam upon stirring. In contrast, Nishi teaches

that a hydrophobic water-repellant metal salt of higher fatty acid, such as calcium stearate, can be included as an optional component to a granule and, if included at all, is merely present to act as an agent for reducing the sedimentation of the granule or for improving the dispersion speed of the granule of Nishi in water. As such, Nishi does not teach or suggest utilizing a metal salt of a fatty acid of 6 to 28 atoms as an anti-foaming agent nor does it suggest utilizing the metal salts in amounts that ensure the aqueous dilute dispersion is hard to foam upon stirring. The metal salts of a fatty acid of 6 to 28 atoms used in the granules described and claimed in the present application and the high fatty acid metal salt described in Nishi exhibit entirely different effects and are used for entirely different functions in that the former acts as an antifoaming agent, while the latter acts as a hydrophobic, water repellant agent for reducing sedimentation or for improving dispersion speed.

In addition to the foregoing distinctions between the claims of the present application and the cited Nishi reference, to further assist the Examiner in understanding the distinctions between the claimed invention and the cited Nishi reference, claim 1 has further been amended to indicate that the water-dispersible granules of the present composition each do not contain an anionic surfactant made of a polycarboxylate, including a copolymer of maleic anhydride and di-isobutylene or a salt thereof, and each do not contain a water soluble carrier.

As the Examiner indicated on page 7 of the pending Office Action, Nishi teaches that a synthetic polymer of sodium polycarboxylate comprised of a copolymer of maleic anhydride and di-isobutylene must necessarily be used as an anionic surfactant in

agrochemical formulations to give the characteristic disintegrability and dispersibility of the water-dispersible granules. However, as evidenced by Examples 1-11 of the present application, it is not necessary to utilize such an anionic surfactant to obtain the water-dispersible granules of the presently-claimed composition and their advantageous properties, and, accordingly, the granular composition of claim 1 is clearly not disclosed in the cited Nishi reference.

Further, in contrast to the exclusion of a water-soluble carrier in the granular composition of claim 1, Nishi teaches that a water-soluble carrier must necessarily be included in the composition of the Nishi reference. However, Applicants have discovered that the inclusion of a water-soluble carrier, such as ammonium sulfate, in the granules of the claimed invention can actually have a negative effect on the antifoaming activity of the (C_6-C_{28}) metal salt fatty acid and that their inclusion is thus not favorable for achieving the purpose of the presently claimed invention, namely reducing the foamability of the aqueous dilute dispersion. As demonstrated in Example 10 of the present application, the inclusion of ammonium sulfate as a water-soluble carrier in the granules resulted in a foam phase height of 8 mm and thus a relatively high foamability. However, the granules described in Examples 1-9 and 11 of the present application, which did not contain a water-soluble carrier, resulted in an aqueous dilute dispersion having relatively low foamabilities as evidenced by foam phase heights of 3, 4, 5, or 6 mm. As such, it can clearly be seen that inclusion of a water-soluble carrier results in the undesirable consequence of increased foaming, and, accordingly, it is further clear that

the granular composition of claim 1 is not disclosed by the cited Nishi reference, which must necessarily include a water-soluble carrier.

In summary, it is thus the case that the cited Nishi reference does not teach or suggest the water-dispersible granules described and claimed in the present application. Nishi does not teach or suggest water-dispersible granules having a low foamability, nor does it teach or suggest the inclusion of a metal salt of fatty acid of 6 to 28 atoms as an anti-foaming agent or the exclusion of an anionic surfactant and a water-soluble carrier. As such, Applicants respectfully submit that the claims of the present application are not anticipated by the cited Nishi reference, and, accordingly, Applicants respectfully traverse the Examiner's rejection and request that it be withdrawn.

Claim Rejections – 35 U.S.C. §103

In the Office Action of July 9, 2008, the Examiner then rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over Nishi in view of Carroll, *et al.* (U.S. Patent No. 2,965,510). In particular, the Examiner asserted that although Nishi does not teach an alkali metal of a fatty acid comprised of a mixture of sodium salts of mixed fatty acids having 6 to 28 carbon atoms, Carroll may be used to supply the missing teaching and render claim 4 obvious. For the reasons set forth below, Applicants respectfully traverse this rejection and request that it be withdrawn.

As discussed in detail above, claim 1 of the present application, as amended, is directed to water-dispersible granules that each do not contain an anionic surfactant made of a polycarboxylate and each do not contain a water-soluble carrier. Such a teaching or

suggestion is clearly missing from the cited Nishi reference as Nishi must necessarily include a polycarboxylate polymer and a water-soluble carrier. In this regard, it is noted that claim 4 depends claim 2, which depends from claim 1 as amended and, accordingly, Nishi cannot be characterized as rendering obvious claim 4 as Nishi includes no teaching or suggestion as to the exclusion of a an anionic surfactant comprised of a polycarboxylate and the exclusion of a water-soluble carrier. Indeed, Nishi teaches away from the present claims as Nishi teaches a composition that must necessarily include a polycarboxylate polymer and a water soluble carrier.

Carroll adds nothing further in this regard. Carroll merely describes carbon black slurries that are used as reinforcing agents in rubber and are comprised of an aqueous slurry of water, carbon black, a rosin acid soap, a caustic, and an antifoaming agent. Although Carroll does includes some mention preparing an aqueous carbon black slurry having little to no tendency to foam, Carroll is concerned with reducing or eliminating the foaming and the high viscosity of an aqueous slurry of carbon black. As such, there fails to be any apparent reason why one of ordinary skill in the art would combine Carroll with Nishi for the purpose of reducing the foaming of an aqueous dilute dispersion of an agricultural or horticultural granular composition as described and claimed in the present application.

Even if, *arguendo*, one were to combine Carroll with Nishi, the combined disclosure would still fail to render obvious the claims of the present application. As described in col. 2, lines 15-38 of Carroll, the antifoaming agent employed to reduce the foaming of the aqueous black slurry specifically consists of a combination of (i) 55-72%

by weight of higher (C_{14}-C_{25}) aliphatic alcohol; (ii) 5-25% by weight of a higher (C_{14}-C_{25}) aliphatic fatty acid; and, (iii) 5-42% by weight of an alkali metal soap or amine soap of a higher (C_{14}-C_{25}) aliphatic fatty acid. As such, it is indeed the case that the specific antifoaming agent taught by Carroll never singly consists of an alkali metal soap (iii) of such a higher aliphatic fatty acid, but instead must necessarily contain all three components. Therefore, contrary to the Examiner's assertions, it is evident that Carroll does not teach or suggest an anti-foaming agent that singly includes either an alkali metal salt of a higher aliphatic fatty acid or includes a mixture of alkali metal salts of the higher fatty acids. Accordingly, Carroll, either alone or in combination with Nishi, fails to render obvious claim 4 of the present application. Applicants thus submit that the Examiner's rejection on the basis of the cited references is respectfully traversed and should be withdrawn.

In light of the amendments and arguments provided herewith, Applicants submit that, upon entrance of the present amendment, the present application overcomes all prior rejections and objections, and will be placed in condition for immediate allowance. Such action is respectfully requested.

Respectfully submitted,

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Dorsey E Keehan FOR
28,578

By: B. Aaron Schulman
Registration No.: 31,877

STITES & HARBISON PLLC ◆ 1199 North Fairfax St. ◆ Suite 900 ◆ Alexandria, VA 22314
TEL: 703-739-4900 ◆ FAX: 703-739-9577 ◆ CUSTOMER NO. 000881